SECOR

SECOR
INTERNATIONAL
INCORPORATED

www.secor.com
446 Eisenhower Lane North
Lombard, IL 60148
630-792-1680 TEL
630-792-1691 FAX

June 28, 2005

Mr. Russell Hart
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

RE: OSA Source Material Mass Reduction Work Plan Comment Response
Area 9/10, Remedial Design
Southeast Rockford Groundwater Contamination Superfund Site
Rockford, Illinois

Dear Mr. Hart:

As a follow-up to our recent meeting and discussion, on behalf of Hamilton Sundstrand (HS), SECOR International Incorporated (SECOR) is providing a response to comments received from United States Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (IEPA) regarding the Outside Storage Container Area (OSA) Source Material Mass Reduction Work Plan (the Plan). The USEPA comments were contained in an electronic-mail message from Mr. Russell Hart to Mr. David Curnock, SECOR, dated May 3, 2005. IEPA comments were submitted to the USEPA in a letter dated May 13, 2005 and subsequently forwarded on to SECOR by the USEPA in correspondence dated May 23, 2005. Copies of both USEPA and IEPA comment correspondence are attached to this letter as reference. The format of this response letter presents the Agency comment followed by the HS/SECOR response.

USEPA OSA REVIEW DATED MAY 3, 2005

1) Comment:

"What provisions are to be made for air monitoring at the OSA perimeter such that assurance is provided that day-to-day Hamilton Sundstrand and other plant visitors are not adversely impacted by VOC vapor levels that could be related to excavation work conducted within the OSA? It would seem appropriate to have such monitoring capability in order to cease operations if necessary if VOC levels became too high. This reasoning would apply to adequate protection of nearby off-site personnel (residential areas, nearby shops, places of commerce, etc.)."

Response:

Ambient and personal breathing space air monitoring will be undertaken as part of this effort. The site specific health and safety plan for the continuing work at this facility will be amended to incorporate the excavation activities. Air monitoring using an 11.7 eV photoionization detector (or equivalent) will be implemented within the work zone and periodically at the work zone perimeter. Threshold levels will be established for worker upgrades in level of personnel protective equipment (PPE) and for cessation or modification of work practices if certain trigger values are reached in the perimeter monitoring program.

2) Comment:

"Introduction of the Hydrogen Release Compound – This procedure may have interest as a pilot application, but I think it may be premature to consider this a means of control for potential low-grade future groundwater sources for any significant portion of the overall plume or groundwater management zone. If I understand the proposed work plan correctly, certain existing monitoring wells within the OSA where excavation may proceed are to be dismantled and abandoned in accordance with IL EPA procedures on this subject. Then, after excavation the hydrogen releasing compound is to be introduced via slurry/solution injection. What wells are to be established to verify that the compound is indeed having a positive effect on VOC levels? Lacking such wells, it would seem difficult/impossible to be able to make a determination about the specific results using this compound. If one of the features of this compound is to enhance anaerobic conditions as opposed to aerobic conditions in groundwater, what monitoring, either of oxygen levels, populations of aerobic/ anaerobic microbes will occur to help relate "cause and effect" associations that may be related to changes in VOC levels in groundwater after application? I appreciate that this technique may serve as a secondary means of source control, and may provide reassurance especially to State RCRA reviewers if excavation alone does not fully attain soil clean-up goals within the OSA. However, I would think that regulatory agency personnel would want to know some verifiable means of knowing what area/depth this slurry injection is affecting."

Response:

The introduction of the hydrogen release compound (HRC-X) is being proposed based on the "opportunity" presented by having the pilot study monitoring points in place at this time. The HRC-X would be introduced prior to decommissioning of the wells. The hydrogen release compound – extended release formula (HRC-X) will be placed within the upper portion (15 feet) of the aquifer. The HRC-X slurry will be placed in the deepest vapor monitoring points which are screened to within a few feet of the groundwater surface and into the air sparge and air sparge detection monitoring wells prior to abandonment. Aquifer parameters including dissolve oxygen (DO) and oxidation reduction potential (ORP) will be monitored before and after the placement of the HRC- X material to provide some indication of the affect that HRC-X would have on the groundwater conditions. Additional monitoring, evaluation, and other potential remedial aspects for this area would be integrated into the overall Remedial Design for Area 9/10 which has yet to be developed.

3) Comment:

"The work plan divides the OSA zone into 8 subportions, based on soil boring results. For 6 of these 8 zones, it is projected that excavation to a depth of 4 feet will be adequate to attain – if not "final" soil cleanup goals, then at least sufficient mass removal to justify excavation cessation provided that some capping and/or material limiting further movement of contaminant mass into groundwater is applied. For 2 of the 8 zones, it is projected that excavation to 6 feet will be necessary. Soil constituent content after

excavation is depicted in Table 2.2. Figure 3.2 depicts points showing "representative base sample location" and "representative wall sample location". In looking at the suggested wall sample locations, it appears that while the perimeter of the overall OSA area would get adequate sample coverage to verify reaching/satisfactorily approaching desired soil cleanup values, I am not so sure about the interior of the OSA zone. Shouldn't there be some verification sampling to go along with the inner walls of the eight zones for which soil borings were performed? This would seem especially important for the zones for which contaminant soil levels were quite high – zones S-1 and S-2 – and also for the zones where excavation is projected to be needed to go to the 6' depth level – in this case zones S-1 and S-5."

Response:

The aspect of the additional sample collection from the interior walls within the excavation area is understood in theory, however, in practice it may not be possible as these interior walls will not necessary exist. The difference in depths between some of the excavation subareas (e.g., S-1 and S-5 versus the others) is approximately two feet. In the field implementation of the excavation effort it is very likely that there will be an angled slope in the floor of the excavation as opposed to a sheer vertical wall in the vicinity of the depth changes. As a result the interior walls, sample locations would essentially be additional base samples.

The excavation base samples planned were selected on a grid basis (approximately 20 feet spacing) to supplement the existing and more comprehensive continuous interval soil sampling already completed. The base samples planned will include three locations within the subareas around S-1 and S-2 and another location by S-5. From the eight borings which were continuously sampled approximately, 110 sample data intervals will remain after excavation across the 50 feet by 65 feet area. This data, combined with the 21 wall and base samples planned, is anticipated to provide representative analytical data of the soil remaining within the OSA. Additional sampling of the interior walls (if practical) would provide limited additional information as the data density in this area is already very high.

IEPA LETTER DATED MAY 13, 2005

1) **Comment:**

"Illinois EPA is recommending that UTC/HS take necessary precautions as best that can be expected on groundwater monitoring wells to prevent unauthorized entry."

Response:

Agreed.

2) **Comment:**

"The use of Illinois Administration Code 35 IAC Part 742 in reference to remediation objectives is inappropriate. The Tiered Approach to Corrective Objectives part 742 is not an ARAR for the Southeast Rockford Groundwater Contamination Site (SERGC). The applicable ARAR for this situation is 35 Ill. Adm. Code Part 620.410, therefore, any references of use of 35 Ill. Adm. Code Part 742 is as a screening tool only. All remediation objectives for the site including Source Area 9/10 are stated in the ROD for the SERGC signed in 2002."

Response:

The references to Tiered Approach to Corrective Action Objectives (TACO) 35 IAC 742 were for comparison purposes only. HS/SECOR are aware that the Preliminary Remediation Goals for Area 9/10 are prescribed in the Record of Decision (ROD) dated May 2002. Although not listed as an ARAR, the predecessor guidance to this regulation (35 IAC 742) was used in the derivation of the Preliminary Remediation Goals. With respect to the constituents of concern and the soil objectives to be applied, the Preliminary Remediation Goals in the ROD and the TACO remediation objectives are the same.

The OSA is a former RCRA unit which is subject to 35 IAC 725 regulations in addition to the conditions of the ROD. To address the overall environmental issues at the site including the ROD (which included Preliminary Remediation Goals) and RCRA responsibilities, a simplified comparison 35 IAC 742 was made. This was done for two reasons: 1) the constituents of concern in the OSA listed in the Preliminary Remediation Goals are the same as the TACO Tier I remediation objectives and derived by the same means, and 2) there are other constituents present at the OSA which are regulated under RCRA which are not part of the ROD but have specified remediation objectives in TACO.

The remedial objectives for constituents regulated under RCRA are subject to 35 IAC 742 TACO. Also, while the site groundwater is subject to 35 IAC 620 regulations, these are groundwater quality regulations only and do not address constituent concentrations in soil.

3) **Comment:**

"In addition to Ill. Adm. Code Part 620, UTC/HS needs to comply with the ARAR, Ill. Adm. Code Part 724 in use of Remediation Objectives and final closure requirements for the former OSA unit. This is specifically directed to UTC/HS in a letter dated October 15, 2002 with specific requirements listed in Attachment A of the letter. The submitted work plan to remove source material will definitely assist in achieving the post closure requirements, however, it will not complete them pursuant to Ill. Adm. Code Part 724 Subparts F (Releases form Solid Waste Management Units) and G Post (Closure and Post-Closure) requirements."

Response:

Final closure of the OSA is not being sought at this time. In the appendix of the letter dated October 15, 2002, it is stated that the site is subject to 35 IAC 725 interim status regulations. At the appropriate time, the request for final closure will address those requirements in 35 IAC 725.

4) **Comment:**

"Future work plan submittals need to make note of specific requirements of comments 2 and 3 and how these specific ARARS and outstanding RCRA issues will be met."

Response:

Future work plans will address appropriate remediation goals or objectives and how the planned activities address issues with respect to RCRA.

5) **Comment:**

"Use of Ill. Adm. Code Part 742.225(c) that states, continuous interval soil samples were averaged at each boring location. Illinois EPA realizes that this was done in an effort to help facilitate mass reduction of hazardous materials through excavation. This assumption however, to average soil samples with VOCs exceeding the soil saturation limits indicates that the soil may exceed Ill. Adm. Code 721.123, therefore, averaging soil sample results may not be appropriate pursuant to CERCLA and the NCP as opposed to comparison of discrete sample results for analysis."

Response:

The averaging of concentrations from continuously sampled soil intervals was used to determine and estimate the mass of constituents and evaluate the benefit of excavation and off-site disposal on a per lift basis. Upon review of the sample analytical data, at this time it does not appear that the two sample intervals where the soil saturation limit was exceeded will present an issue with respect to reactivity per 35 IAC 721.123.

6) **Comment:**

"After the excavation is completed remaining levels in soil of metals and VOCs shall be compared to Remediation Objectives in the ROD for review. The potential effectiveness of the proposed RA work is premature at this point until Illinois EPA and U.S. EPA have evaluated a submitted design."

Response:

As noted in comment number 2, the ROD does not provide preliminary remediation goals for the metals of potential concern in the OSA (lead and cadmium). HS will compare the

existing data and post excavation base and wall soil analytical data with the appropriate remediation objectives. HS agrees that a determination of the potential effectiveness of the source material reduction work is premature. HS plans to incorporate additional monitoring, evaluation, and any potential remedial actions for the OSA into the Remedial Design for Area 9/10.

7) **Comment:**

"The proposed procedure to enhance natural attenuation may require UTC/HS to expand the parameters of the groundwater sampling to determine if anaerobic conditions are being created. Groundwater monitoring wells will need to be placed in such a manner as to verify the effectiveness of this procedure for long and short-term evaluation. Illinois EPA does have the intention of installing down-gradient groundwater monitoring wells as part of monitoring natural attenuation and monitoring the effectiveness of all RA work in Area 9/10."

Response:

HS plans to monitor dissolved oxygen (DO) and oxidation reduction potential (ORP) in the wells within the OSA prior to and after the placement of the hydrogen release compound extended release (HRC-X) material for short term evaluation. Additional groundwater monitoring wells would assist in this effort. Long term efforts by HS will be incorporated into the Remedial Design for Area 9/10.

8) **Comment:**

"Copies of well abandonment reports should also be forwarded to Illinois EPA as well as the other appropriate State Agencies."

Response:

Copies of the well abandonment forms will be provided to IEPA as part of the documentation of the work plan activities as outlined in Section 4.0 of the Plan. The forms will also be submitted to other appropriate State Agencies, including the Illinois Department of Public Health as required.

9) **Comment:**

"Waste disposal needs to meet the requirements set forth in the ROD as well as meeting Federal and State of Illinois requirements. Illinois EPA NPL unit and U.S. EPA should receive copies of waste disposal manifests and other appropriate documentation."

Response:

The waste disposal planned will meet the requirements set forth in the ROD, as well as all other State and Federal requirements. As indicated in Section 4.0, copies of the waste disposal manifest will be submitted as part of the documentation of the work plan activities.

10) Comment:

"A corrected copy of this work plan will be required for placement into the repositories that in particular addresses comments 2 and 3."

Response:

This response is intended to serve as an addendum to the work plan and a means to address and clarify the issues raised in comments 2 and 3.

11) Comment:

"If UTC/HS is going to rely on sample collection in the excavated area as verification of removal, other potential sampling may be necessary to verify what contaminant concentrations actually. During the excavation process UTC/HS will need to perform air monitoring to minimize exposure risk form inhalation of VOCs."

Response:

The planned excavation wall and base samples (21 samples total) combined with the continuous soil sampling effort already completed (continuously on two feet intervals from four feet or six feet to 32 feet at eight locations – 110 samples) appear to be adequate to determine what constituent concentrations remain in the OSA, as well as what is to be removed. Air monitoring will be performed during the excavation activities (also, see USEPA comment 1).

12) Comment:

"The placement of a clay cap of three feet is satisfactory for short-term acceptance, however, if contaminants of concern (COCs) are to be left in place. This cap and the materials from which it is constructed may need to be reevaluated for the long-term remedy. Metals left behind that exceed Remediation Objectives (ROs) in the ROD may require a cap that will stop infiltration of precipitation sufficiently to meet the requirements of Ill. Adm. Code Part 620."

Response:

Placement of the clay cap at the OSA is a positive interim measure that will minimize infiltration. The presence of the clay cap and the suitability of the materials of construction will be evaluated as part of the final remedial design activities.

13) **Comment:**

"If COCs that exceed ROs are to remain in place, institutional controls will be necessary."

Response:

Institutional controls will be considered as part the final remedial design.

We appreciate the USEPA's and IEPA's cooperation and involvement in keeping the Area 9/10 Remedial Design effort moving on an appropriate course. As always, if you have any questions, please do not hesitate to call.

Sincerely,
SECOR International Incorporated

David M. Curnock
Principal Scientist

attachments: May 3, 2005 Electronic Mail to SECOR from USEPA
May 13, 2005 Letter to USEPA from IEPA

cc: Mr. Scott Moyer, HS/UTC
Ms. Kathleen McFadden, UTC
Mr. Brian Yeich, UTC
Mr. Thomas Turner, USEPA
Mr. Thomas Williams, IEPA
Mr. Terry Ayers, IEPA

ATTACHMENT

May 3, 2005 Electronic Mail to SECOR from USEPA

and

May 13, 2005 Letter to USEPA from IEPA

RUSSELL
HART/R5/USEPA/US
05/03/2005 11:44 AM

To

Subject Area 9/10 - Review - Outside Container Storage Area - Mass Reduction Work Plan

Dear Mr. Curnock - I have received a copy of the above-noted document, dated April 27, 2005. (I look forward to also receiving overall Area 9/10 conceptual design information, and horizontal drilling proposals). In reviewing the OSA Source Material Mass Reduction Work Plan, I have three main areas of comment:

1.) What provisions are to be made for air monitoring at the OSA perimeter such that assurance is provided that day-to-day Hamilton Sundstrand and other plant visitors are not adversely impacted by VOC vapor levels that could be related to excavation work conducted within the OSA? It would seem appropriate to have such monitoring capability in order to cease operations if necessary if VOC levels became too high. This reasoning would apply to adequate protection of nearby off-site personnel (residential areas, nearby shops, places of commerce, etc.).

2.) Introduction of the Hydrogen Release Compound - This procedure may have interest as a pilot application, but I think it may be premature to consider this a means of control for potential low-grade future groundwater sources for any significant portion of the overall plume or groundwater management zone. If I understand the proposed work plan correctly, certain existing monitoring wells within the OSA where excavation may proceed are to be dismantled and abandoned in accordance with IL EPA procedures on this subject. Then, after excavation the hydrogen releasing compound is to be introduced via slurry/solution injection. What wells are to be established to verify that the compound is indeed having a positive effect on VOC levels? Lacking such wells, it would seem difficult/impossible to be able to make a determination about the specific results using this compound. If one of the features of this compound is to enhance anaerobic conditions as opposed to aerobic conditions in groundwater, what monitoring, either of oxygen levels, populations of aerobic/anaerobic microbes will occur to help relate "cause and effect" associations that may be related to changes in VOC levels in groundwater after application? I appreciate that this technique may serve as a secondary means of source control, and may provide reassurance especially to State RCRA reviewers if excavation alone does not fully attain soil clean-up goals within the OSA. However, I would think that regulatory agency personnel would want to know some verifiable means of knowing what area/depth this slurry injection is affecting.

3.) The work plan divides the OSA zone into 8 subportions, based on soil boring results. For 6 of these 8 zones, it is projected that excavation to a depth of 4 feet will be adequate to attain - if not "final" soil cleanup goals, then at least sufficient mass removal to justify excavation cessation provided that some capping and/or material limiting further movement of contaminant mass into groundwater is applied. For 2 of the 8 zones, it is projected that excavation to 6 feet will be necessary. Soil constituent content after excavation is depicted in Table 2.2. Figure 3.2 depicts points showing "representative base sample location" and "representative wall sample location". In looking at the suggested wall sample locations, it appears that while the perimeter of the overall OSA area would get adequate sample coverage to verify reaching/satisfactorily approaching desired soil cleanup values, I am not so sure about the interior of the OSA zone. Shouldn't there be some verification sampling to go along with the inner walls of the eight zones for which soil borings were performed? This would seem especially important for the zones for which contaminant soil levels were quite high - zones S-1 and S-2 - and also for the zones where excavation is projected to be needed to go to the 6' depth level - in this case zones S-1 and S-5.

I look forward to discussing these comments with you and IL EPA, and to your response.

Russ Hart

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276, 217-782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601, 312-814-6026

ROD R. BLAGOJEVICH, GOVERNOR RENEE CIPRIANO, DIRECTOR

815-223-1714

May 13, 2005

Mr. Russ Hart Remedial Project Manager SR-6J
United States Environmental Protection Agency
Region V
77 W. Jackson Blvd.
Chicago, Illinois 60604-3590

Refer to: 2010300074—Winnebago County
Southeast Rock Groundwater Contamination Site
Superfund/Technical Reports

Dear Mr. Hart

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the document entitled Outside Storage Area Source Material Mass Reduction Work Plan (Report) dated April 27, 2005. SECOR International Incorporated of Lombard prepared the Report on the behalf of United Technologies Hamilton Sundstrand (UTC/HS). The work plan was prepared in as part of the requirements of the Administrative Order on Consent (AOC) between the US.EPA and UTC/HS dated January 13, 2003. Illinois EPA approves of the Report/Work Plan using excavation to reduce the source material below the former OSA unit. UTC/HS should address the comments below to the Report and incorporate the appropriate changes the Remedial Design Work Plan.

1. Illinois EPA is recommending that UTC/HS take necessary precautions as best that can be expected on groundwater monitoring wells to prevent unauthorized entry.

2. The use of Illinois Administration Code 35 IAC Part 742 in reference to remediation objectives is inappropriate. The Tiered Approach to Corrective Objectives Part 742 is not an ARAR for the Southeast Rockford Groundwater Contamination Site (SERGC). The applicable ARAR for this situation is 35 Ill. Adm. Code Part 620.410, therefore, any references of use of 35 Ill. Adm. Code Part 742 is as a screening tool only. All remediation objectives for the site including Source Area 9/10 are stated in the ROD for the SERGC signed in 2002.

3. In addition to Ill. Adm. Code Part 620, UTC/HS needs to comply with the ARAR, Ill. Adm. Code Part 724 in use of Remediation Objectives and final closure requirements for the former OSA unit. This is specifically directed to UTC/HS in a letter dated October 15, 2002 with specific requirements listed in Attachment A of the letter. The submitted work plan to remove source material will definitely assist in achieving the post closure requirements, however, it will not complete them pursuant to Ill. Adm. Code Part 724 Subparts F (Releases from Solid Waste Management Units) and G Post (Closure and Post-Closure) requirements.

4. Future work plan submittals need to make note of specific requirements of comments 2 and 3 and how these specific ARARS and outstanding RCRA issues will be met.

5. Use of Ill. Adm. Code Part 742.225(c) that states, continuous interval soil samples were averaged at each boring location. Illinois EPA realizes that this was done in an effort to help facilitate mass reduction of hazardous materials through excavation. This assumption However, to average soil samples with VOC's exceeding the soil saturation limits indicates that the soil may exceed Ill. Adm. Code 721.123, therefore, averaging soil sample results may not be appropriate pursuant to CERCLA and the NCP as opposed to comparison of discrete sample results for analysis.

6. After the excavation is completed remaining levels in soil of metals and VOCs shall be compared to Remediation Objectives in the ROD for review. The potential effectiveness of the proposed RA work is premature at this point until Illinois EPA and U.S. EPA have evaluated a submitted design.

7. The proposed procedure to enhance natural attenuation may require UTC/HS to expand the parameters of the groundwater sampling to determine if anaerobic conditions are being created. Groundwater monitoring wells will need to be placed in such a manner as to verify the effectiveness of this procedure for long and short-term evaluation. Illinois EPA does have the intention of installing down-gradient groundwater monitoring wells as part of monitoring natural attenuation and monitoring the effectiveness of all RA work in Area 9/10.

8. Copies of well abandonment reports should also be forwarded to Illinois EPA as well as the other appropriate State Agencies.

9. Waste disposal needs to meet the requirements set forth in the ROD as well as meeting Federal and State of Illinois requirements. Illinois EPA NPL unit and U.S.EPA should receive copies of waste disposal manifests and other appropriate documentation.

10. A corrected copy of this work plan will be required for placement into the repositories that in particular addresses comments 2 and 3.

11. If UTC/HS is going to rely on sample collection in the excavated area as verification of removal, other potential sampling may be necessary to verify what contaminant concentrations actually. During the excavation process UTC/HS will need to perform air monitoring to minimize exposure risk form inhalation of VOCs.

12. The placement of a clay cap of three feet is satisfactory for short-term acceptance, however, if contaminants of concern (COCs) are to be left in place. This cap and the materials from which it is constructed may need to be reevaluated for the long-term remedy. Metals left behind that exceed Remediation Objectives (RO's) in the ROD may require a cap that will stop infiltration of precipitation sufficiently to meet the requirements of Ill. Adm. Code Part 620.

13. If COC's that exceed RO's are to remain in place, institutional controls will be necessary.

Please provide the Illinois EPA with 3 copies of any future information submitted regarding the above referenced site. Mail two copies to the Springfield Illinois address and another copy to Thomas C. Williams LPG Illinois EPA Project Manager at PO. Box 1515 LaSalle, Illinois 61301-3515. The Illinois EPA requests 14 days notification of all site investigations and remedial activities to coordinate oversight. If you have any questions, please fell free to contact me at the telephone number 815-223-1714 or Terry Ayers at 217-524-3300.

Sincerely,

Thomas C. Williams

Thomas C. Williams LPG.
National Priorities List Unit
Federal Sites Remediation Section
Division of Remediation Management
Bureau of Land

cc: Bureau of Land File
Terry Ayers
Paul Jagiello DLC Des Plaines Regional Office
Virginia Forrer